Amendments to the Claims

The listing of claims presented below replaces all prior versions, and listings, of claims in the application.

Listing of claims:

1-18. (Cancelled)

19. (Currently Amended) A device having a surface relief structure which has a plurality of regions,

wherein the plurality of regions include grey scale regions which are smaller than 0.25mm in width and which together are for generating a macroscopic graphic, line art or text image,

each grey scale region having a particular level of diffuse scattering of incident light,

at least one grey scale region having a different level of diffuse scattering of incident light compared to another grey scale region to generate the macroscopic graphic, line art or text image;

wherein each grey scale region has one or more microscopic graphic elements, line art or text images represented in microscopic size in its surface relief structure.

20. (Cancelled)

21. (Previously Presented) A device according to claim 19 wherein each grey scale region is of size 120 micron by 120 micron or less.

22. (Previously Presented) A device according to claim 19 wherein an image is represented in the physical characteristics of each grey scale region.

23. (Previously Presented) A device according to claim 19, wherein in at least one grey scale region different graphic elements, line art or images are represented compared to another grey scale region.

24. (Currently Amended) A device having a surface relief structure which has a regular array of regions, each region being smaller than 0.25 mm in width, wherein the array of regions include non-diffracting grey scale regions with diffuse scattering characteristics for generating a macroscopic graphic, line art or text image, each grey scale region having one or more microscopic graphic elements, line art or text images represented in microscopic size in its surface relief structure so that each grey scale region appears to an observer to be a particular shade of grey when viewed from any direction whereby the observer observes the macroscopic graphic, line art or text image composed of different grey scales.

25. (Previously Presented) A device according to claim 24 wherein each grey scale region has an identical image represented in its surface relief structure.

26. (Previously Presented) A device according to claim 24 wherein each grey scale region has one of a limited number of non-diffracting grey scale region structure types.

27. (Cancelled)

28. (Previously Presented) A device according to one of claims 19 or 24 further including a plurality of diffracting regions such that, upon illumination by a light source, the device generates one or more diffraction images which are observable from one or more ranges of viewing angles around the device.

29. (Cancelled)

30. (Previously Presented) A device according to claim 28 wherein the non-diffracting grey scale regions provide grey scale enhancement to the diffraction image or images.

31. (Previously Presented) A device according to claim 19 or claim 24 wherein some or all of the regions are hybrid regions which include both periodic surface structure which has diffractive effects and graphic elements line art or images which

have diffuse scattering effects.

32. (Previously Presented) A device according to claim 31 wherein microscopic text is embossed onto or engraved into the tops of diffractive periodic surface structure elements and/or between diffractive periodic surface structure elements.

33. (Currently Amended) A device having a surface relief structure which has a plurality of non-diffracting light scattering regions which together are for generating a macroscopic graphic, line art or text image, each region having a number of structures which scatter incident light in different directions, so that the regions appears to an observer to be a particular shade of grey when viewed from any direction whereby the observer observes the macroscopic graphic, line art or text image composed of different grey scales, and wherein each grey scale region has one or more microscopic graphic elements, line art or text images represented in microscopic size in its surface relief structure.

34. (Previously Presented) A valuable document having a surface which incorporates a device according to any one of claims 19, 24 or 33, the surface having printed on it graphical elements which match up with, and are continuous with, the macroscopic graphic, line art or text image formed by the grey scale regions on the device.

35. (Previously Presented) A device according to any one of claims 19, 24 or 33 which is used for authentication purposes, wherein authentication of the device takes place by microscopic examination and recognition of the regions.

36. (Previously Presented) A device according to any one of claims 19, 24 or 33 which is used for authentication purposes, wherein authentication of the device takes place by machine recognition of the regions.